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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/061,995	02/01/2002	Theodore E. Tedijanto	10.0437	2047

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EXAMINER	
MEW, KEVIN D	

ART UNIT	PAPER NUMBER
2664	

DATE MAILED: 09/30/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/061,995	TEDIJANTO ET AL.	
	Examiner	Art Unit	
	Kevin Mew	2664	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *01 February 2002*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-31* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-31* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *01 February 2002* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

Detailed Action

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

1. Claims 1-11, 14-25, 29-31 are rejected under 35 U.S.C. 102(b) as being anticipated by Iwata (USP 5,687,168).

Regarding claims 1, 15, Iwata discloses a computer-readable medium carrying one or more sequences of instructions (ROM storing programs), wherein execution of the one or more sequences of instructions by one or more processors (CPU of an ATM switch, col. 5, lines 60-63) causes the one or more processors to perform a method for aggregating at least two of a plurality of physical lines (a abstract link abstracts a plurality of physical links into one abstracted link, col. 5, lines 23-27) within a network comprising a plurality of nodes (a network that comprises a plurality of ATM switches, Fig. 4), the method comprising:

determining status information (abstracted link state information is exchanged with adjacent switch and also distributed to all of other switches by flooding with link state update packet, col. 5, lines 23-67) for at least two of said plurality of physical lines (the link state information in a plurality of physical links are represented by information of one abstracted link, col. 4, lines 57-67) connecting a first node to a second node (connecting one switch with adjacent switch, col. 5, lines 23-67); and

associating at least two of said plurality of physical lines with one another to create a first aggregated link (at least two physical links are abstracted into one abstracted link, col. 4, lines 40-45, 56-67, col. 5, lines 23-27, Figs. 1, 2, 3, 4).

Regarding claims 2, 16, Iwata discloses the computer-readable medium over which to perform the method of Claim 1 wherein the first node is a sub network connection network element (First ATM Switch, element 11, Figs. 3, 4).

Regarding claims 3, 17, Iwata discloses the computer-readable medium over which to perform the method of Claim 2 wherein the sub network connection network element is a sub network connection switch (First ATM Switch, element 11, Figs. 3, 4).

Regarding claims 4, 18, Iwata discloses the computer-readable medium over which to perform the method of Claim 1 comprising the additional step of associating status information with said first aggregated link (link state information is associated with an abstracted link, col. 4, lines 57-67).

Regarding claims 5, 19, Iwata discloses the computer-readable medium over which to perform the method of Claim 4 comprising the additional step of transmitting the status information of the first aggregated link to said second node (exchanging link state information/conditions between adjacent switches, col. 5, lines 28-59).

Regarding claims 6, 20, Iwata discloses the computer-readable medium over which to perform the method of Claim 1 wherein said status information for each of said plurality of physical lines includes information regarding data transmission bandwidth for transferring data between said first node and said second node (link state information includes available bandwidth, col. 7, lines 42-59).

Regarding claims 7, 21, Iwata discloses the computer-readable medium over which to perform the method of Claim 4 wherein said status information of said first aggregated link includes a maximum available data transmission bandwidth based upon the status information of each of said plurality of physical lines associated with said first aggregated link (link state information includes a predetermined value of bandwidth, col. 7, lines 42-59).

Regarding claims 8, 22, 24, Iwata discloses the computer-readable medium over which to perform the method of Claim 4 wherein said status information of said first aggregated link includes a class of service based upon the status information of each of said plurality of physical lines associated with said first aggregated link (link state information includes a link state attribute 83 that characterizes link cost, available bandwidth and transmission delay, col. 6, lines 42-51 and Fig. 6).

Regarding claims 9, 23, Iwata discloses the computer-readable medium over which to perform the method of Claim 1 further comprising the step of automatically associating at least two of said plurality of said physical lines with the first aggregated link (link abstracting portion

automatically aggregates physical links into one abstracted link, col. 4, lines 57-67, col. 5, lines 47-52 and Fig. 5).

Regarding claims 10, 25, Iwata discloses the computer-readable medium over which to perform the method of Claim 1 further comprising the step of associating at least two of said plurality of said physical lines, based upon at least one predetermined criteria of said status information, with the first aggregated link (link state information is associated with an abstracted link based on a predetermined value of bandwidth, col. 4, lines 57-67, col. 7, lines 42-59).

Regarding claim 11, Iwata discloses the computer-readable medium over which to perform the method of Claim 1 further comprising the step of associating at least two of said plurality of said physical lines, based upon a class of service (link attribute) associated with said status information, with the first aggregated link (link state information is associated with an abstracted link based on a link attribute such as available bandwidth, col. 4, lines 57-67, col. 6, lines 42-51).

Regarding claim 29, Iwata discloses a method implemented for aggregating at least two of a plurality of physical lines within a network, the method comprising:

transmitting information identifying a first node (First ATM switch transmitting Hello packets to identify its ATM address, col. 5, lines 12-18 and Figs. 3, 4);

transmitting status information (transmitting link state information) associated with at least two of the plurality of physical lines (link state information in a plurality of physical links, col. 4, lines 57-67) coupled to the first node (coupled to First ATM Switch, Figs. 3, 4); and

requesting the aggregation of the at least two of the plurality of physical lines coupled to the first node (a detection of a plurality of physical links corresponds to a request for abstracting the physical links into an abstracted link, col. 4, lines 31-36).

Regarding claim 30, Iwata discloses a method implemented for aggregating at least two of a plurality of physical lines within a network, the method comprising:

receiving information identifying a first node (Second ATM Switch receiving Hello packets identifying the First ATM switch, col. 5, lines 12-18 and Figs. 3, 4);

receiving status information (receiving link state information) associated with at least two of the plurality of physical lines (link state information in a plurality of physical links, col. 4, lines 57-67) coupled to the first node (coupled to First ATM Switch, Figs. 3, 4); and

aggregating at least two of the plurality of physical lines coupled to the first node (abstracting a plurality of physical links into one abstracted link, col. 4, lines 57-67).

Regarding claim 31, Iwata discloses a method of claim 30 wherein said aggregating is in response to a request for aggregation (abstracting the physical links into an abstracted link is a response to a request for aggregating a plurality of physical links, col. 4, lines 31-36).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

2. Claims 12, 26 are rejected under 35 U.S.C. 103(a) as being unpatentable over Iwata.

Regarding claims 12, 26, Iwata discloses all the aspects of the claimed invention set forth in the rejection of Claim 1 above, except fails to explicitly show the method of Claim 1 further comprising the step of reassociating one of said plurality of physical lines from the first aggregated link to a second aggregated link. However, Iwata discloses that the number of physical links can be added or removed from the abstracted link (col. 7, lines 60-65, col. 10, lines 43-52). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the link abstracting system and method of Iwata with the further teaching of Iwata about removing a physical link from and/or adding a physical link to a abstracted link such that one of said plurality of physical links from the first aggregated link will be reassociated to a second aggregated link. The motivation to do so is to dynamically adjust an abstracted link when the connecting condition of respective link such as the bandwidth requirement is varied.

3. Claims 13, 27 are rejected under 35 U.S.C. 103(a) as being unpatentable over Iwata in view of Gangadharan (US Publication 2005/0163123).

Regarding claims 13, 27, Iwata discloses all the aspects of the claimed invention set forth in the rejection of Claim 1 above, except fails to explicitly show the method of Claim 1 further comprising the step of designating which of said plurality of physical lines associated with said first aggregated link transmits data to said second node. However, Gangadharan discloses a switch that aggregates a plurality of links into a single link that anticipates utilizing any of the physical links to transport data traffic (paragraph 0004). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the link abstracting system and method of Iwata with the teaching of Gangadharan such that the method and system of Iwata will designate which of said plurality of physical lines associated with said first aggregated link transmits data to said second node. The motivation to do so is to transmit data over a physical link that provides a high data transfer rate.

4. Claims 14, 28 are rejected under 35 U.S.C. 103(a) as being unpatentable over Iwata in view of Linzy (US Publication 2002/0019866).

Regarding claims 14, 28, Iwata discloses all the aspects of the claimed invention set forth in the rejection of Claim 1 above, except fails to explicitly show the method of Claim 1 wherein at least one of said plurality of physical lines includes optical fiber. However, Linzy discloses aggregating different optical links into an aggregate link (paragraph 0028). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the link abstracting system and method of Iwata with the teaching of Linzy such that one

of the physical links includes an optical fiber link. The motivation to do so is to carry signals of different capacities through a synchronous and flexible optical channel.

Conclusion

5. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

US Publication 2003/0061533 to Perloff et al.

US Publication 2002/0105963 to Boroditsky et al.

US Patent 6,807,178 to Lemieux

US Publication 2003/0147400 to Devi

US Patent 6,657,961 to Lauffenburger et al.

6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Kevin Mew whose telephone number is 571-272-3141. The examiner can normally be reached on 9:00 am - 5:30 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Wellington Chin can be reached on 571-272-3134. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

WELLINGTON CHIN
SUPERVISORY PATENT EXAMINER

KDM
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